



NOTES

GENITOURINARY TRACT INFECTIONS

GENERALLY, WHAT ARE THEY?

PATHOLOGY & CAUSES

- Infections of genital/urinary tract

CAUSES

- Mostly bacteria

RISK FACTORS

- Recent sexual activity
- High-risk sexual behavior
- Previous genitourinary tract infections

COMPLICATIONS

- Pelvic inflammatory disease, infertility, pyelonephritis, epididymitis, prostatitis, sepsis, abscesses

SIGNS & SYMPTOMS

- Abdominal pain, altered vaginal/urethral discharge, dysuria, fever

DIAGNOSIS

LAB RESULTS

- Vaginal/urethral discharge microscopy
- Nucleic acid amplification tests (NAATs)

OTHER DIAGNOSTICS

- Clinical examination

TREATMENT

MEDICATIONS

- Antibiotic therapy

PELVIC INFLAMMATORY DISEASE

osms.it/pelvic-inflammatory-disease

PATHOLOGY & CAUSES

- Infection, inflammation of upper genital tract (uterus, ovaries, fallopian tubes) in individuals who are biologically female
- **Common pathogens:** *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, vaginal flora bacteria (e.g. *Gardnerella vaginalis*); often polymicrobial
- Bacterial vaginosis (alteration in vaginal flora) present in $\frac{2}{3}$ of PID cases
 - Anaerobic bacteria replace lactobacilli
- in vagina → enzyme production → degradation of cervical mucus, antimicrobial agents → infections spread
- Associated syndromes
 - Endometritis, salpingitis, oophoritis, peritonitis, perihepatitis (liver capsule inflammation), tubo-ovarian abscess
- Vaginal mucosa colonization → disruption of endocervical canal barrier → pathogens ascend to upper genital structures → inflammation

VISIT...

LANZAROTE
Caliente.COM

RISK FACTORS

- More common in individuals who are biologically female, < 25 years old, sexually active
- Multiple sexual partners
- Partner with sexually transmitted disease (STD)
- Personal history of PID/STD
- Unprotected sexual intercourse
- Cervix instrumentation (e.g. abortion)

COMPLICATIONS

- Recurrent PID, **hydrosalpinx** (fluid-filled fallopian tubes), **pyosalpinx** (infected fallopian tube filled with purulent matter), **chronic pelvic pain**, **infertility**, **ectopic pregnancy**, ovarian cancer

SIGNS & SYMPTOMS

Acute symptomatic PID

- Bilateral lower abdominal/pelvic pain
 - Abrupt onset during/after menstruation
 - Constant, aching
 - Worsens during sexual intercourse/movement
- Abdominal/pelvic organ tenderness
- Feeling of pelvic fullness
- Intermenstrual/postcoital bleeding
- Dysuria
- Low-grade fever
- Rebound tenderness, fever, ↓ bowel sounds (severe)

Chronic PID

- Low-grade fever, weight loss, abdominal pain

Perihepatitis (Fitz-Hugh–Curtis syndrome)

- Right upper quadrant pain, tenderness

DIAGNOSIS

DIAGNOSTIC IMAGING

Pelvic/abdominal ultrasound

- Fluid-filled fallopian tubes with cogwheel sign (thickened loops on cross-section)
- Endometrium changes (e.g. wall thickening)

- Tubo-ovarian abscess (thick walls, multilocular cyst)

LAB RESULTS

- Vaginal discharge microscopy
 - Saline microscopy, Gram stain
 - ↑ leukocytes
 - Clue cells (epithelial cells surrounded by bacteria) in bacterial vaginosis
- Nucleic acids amplification tests (NAATs)
 - *C. trachomatis*, *N. gonorrhoeae*
- Tissue biopsy
 - ↑ plasma cells, neutrophils (inflammation)
- Leukocytosis, ↑ C-reactive protein (CRP), ↑ erythrocyte sedimentation rate (severe)

OTHER DIAGNOSTICS

- Speculum exam
 - **Mucopurulent cervical discharge** (positive swab test)

TREATMENT

MEDICATIONS

Broad-spectrum antibiotic therapy

- Inpatient (parenteral)
 - Cefoxitin/cefotetan (cephalosporin) + doxycycline (tetracycline)
 - Clindamycin (lincosamide) + gentamicin (aminoglycoside)
- Outpatient
 - Ceftriaxone/cefoxitin (cephalosporin) + doxycycline (tetracycline)
- Pelvic abscess
 - Clindamycin/metronidazole + doxycycline

Antiemetic medication

- E.g. metoclopramide

Antipyretic medication

- E.g. acetaminophen

OTHER INTERVENTIONS

- Prevention
 - Barrier contraception (e.g. condoms)
 - Abstinence

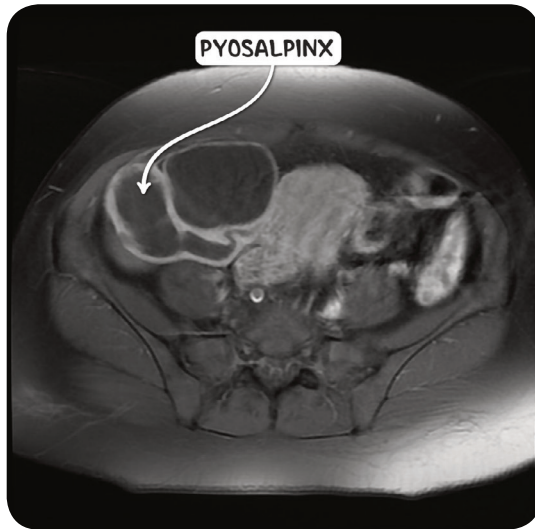


Figure 125.1 An MRI scan of the pelvis in the sagittal plane demonstrating a right-sided pyosalpinx.

URETHRITIS

osms.it/urethritis

PATHOLOGY & CAUSES

- **Inflammation of urethra**; more common in individuals who are biologically male with sexually transmitted diseases
- Common coinfection with other STDs
- **Incubation period**: 4–8 days

CAUSES

- Infectious urethritis (most common)
 - **Gonococcal**: *Neisseria gonorrhoeae*
 - **Non-gonococcal**: *Chlamydia trachomatis* (most common), *Mycoplasma genitalium*
- Non-infectious urethritis
 - Chemical irritation (e.g. soaps, spermicides)
 - Trauma

RISK FACTORS

- Individuals who are biologically male, young
- Multiple sexual partners
- Partner with sexually transmitted disease (STD)
- Unprotected sexual intercourse

COMPLICATIONS

- **Reactive arthritis** related to *C. trachomatis*, gonococcal conjunctivitis, epididymitis, prostatitis, penile lymphangitis, periurethral abscess

SIGNS & SYMPTOMS

- Sometimes asymptomatic
- Dysuria
- Urethral pruritus, discharge (mucoid, watery, purulent)
- Inflammation/edema of urethral meatus

DIAGNOSIS

LAB RESULTS

- Diagnosis criteria ($\geq$ one)
 - Mucopurulent/purulent urethral discharge
 - $\geq$ one leukocyte per oil immersion field in Gram stain of urethral discharge
 - Positive leukocyte esterase, $\geq$ 10 leukocytes per high-power field (first-catch urine)
- NAATs
 - *C. trachomatis*, *N. gonorrhoeae*
- Urethral discharge microscopy (e.g. Gram stain)

OTHER DIAGNOSTICS

- Clinical examination
 - *Gonorrhoea*: purulent discharge
 - *Chlamydia*: isolated dysuria
 - *Herpes simplex virus (HSV)*: dysuria + painful genital ulcers

TREATMENT

MEDICATIONS

Antibiotic therapy

- Gonococcal urethritis
 - Ceftriaxone (cephalosporin) + azithromycin (macrolide)
- Non-gonococcal urethritis
 - Azithromycin or doxycycline (tetracycline)
 - Azithromycin/moxifloxacin (persistent)

OTHER INTERVENTIONS

- Prevention
 - Barrier contraception (e.g. condoms)
 - Abstinence